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ABSTRACT

This paper reports on a study that investigated the characteristics of innovative Ohio sawmill operators and compared characteristics of Appalachian to non-Appalachian operators. (The paper is derived from a larger study that investigated the perceived educational needs of innovative Ohio sawmill operators.) Thirty-two Ohio sawmill operators were selected based upon criteria that they were the first or near the first individuals to adopt new ideas or work practices. A questionnaire assessed the sawmill operators' perceived importance and perceived knowledge of 67 job competencies and examined characteristics of the subjects. The results include: (1) a higher percentage of Appalachian operators (19 percent) were identified as innovative as compared to non-Appalachian operators (9 percent); (2) Appalachian operators were older than their non-Appalachian counterparts; (3) Appalachian operators tended to have more tenure in the sawmill industry and higher income than their non-Appalachian counterparts; (4) Appalachian operators had a minimum educational attainment of some college with 62 percent of the same operators indicating strong educational aspirations; and (5) there were no significant differences between perceived educational needs of innovative operators across geographic region. This study indicates that educators and service providers need to be aware of the diversities within the Appalachian region and the characteristics of their audience when planning educational programming. Education and service providers can contribute to the understanding of diversity in Appalachia by conducting in-depth analysis of different social systems within the region. (LP)

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CHARACTERISTICS OF INNOVATIVE SAWMILL OPERATORS: AN APPALACHIAN OHIO PERSPECTIVE

Stephen M. Bratkovich and Larry E. Miller

Hardwood forests blanketing "mountain" slopes, loggers rising before dawn to head for the woods, and the combined roar and shriek of a sawmill blade cutting through a log are three of the many images that come to mind when visualizing the 29 county area of Ohio that is defined as Appalachia. However, forests, loggers, and sawmills can also be found in the remaining 59 non-Appalachian Ohio counties. In fact, the forest products industry is big business in Ohio, directly employing 60,000 workers with an annual product value near $7 billion (U. S. Department of Commerce 1990). State government, private industry, and The Ohio State University have recently reaffirmed their commitment to maintain and expand the Ohio forest products industry for the economic and social benefits that accrue to Ohio citizens, both within and outside of the geographic region defined as Appalachia.

Sawmills are a well known and visible manufacturing sector, comprising statewide nearly 20 percent of all Ohio forest products industries. Although educational programs have been limited, sawmill personnel have traditionally received more attention by the Ohio Cooperative Extension Service than most other forest products industry manufacturing sectors. However, a formal educational needs assessment of Ohio sawmill operators had never been conducted.

The purpose of this paper is to report on a study that investigated the characteristics of innovative Ohio sawmill operators from an Appalachian perspective. This paper is derived from a larger study that investigated the perceived educational needs of innovative Ohio sawmill operators (Bratkovich 1991).

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Methods

This study was designed as a descriptive correlational study which utilized survey research methods. The 32 innovative Ohio sawmill operators selected for this study were a purposive sample, nominated by a panel of experts. The expert panel consisted of six individuals who were knowledgeable about the Ohio sawmill industry. The criteria used by the expert panel in nominating innovative sawmill operators were based upon Rogers' (1983) innovator and early adopter definitions (first or near the first individuals to adopt new ideas or practices). The sample of 32 subjects represented approximately the top 15 percent of sawmill operators in Ohio based upon innovativeness.

A researcher-developed instrument (mail questionnaire) was used in data collection. The instrument was tested for content validity by a panel of experts and pilot tested on Ohio sawmill operators with similar demographic characteristics as the target population. Cronbach's alpha reliability estimates, which ranged from .69 to .93, were calculated to determine the internal consistency of the instrument.

Part one of the instrument collected data on innovative Ohio sawmill operators' perceived importance and perceived knowledge of 67 job competencies. Part two of the instrument collected data on characteristics of the subjects. Two mailings of the questionnaire plus telephone and face-to-face follow-up achieved a response rate of 100 percent.

Results of this study were generalizable only to the innovative Ohio operators investigated. An alpha level of .05 was selected a priori.

Results, Conclusions, and Implications

From the total of 32 innovative Ohio sawmill operators, 21 operators (66 percent) resided in the geographic region of Appalachian Ohio and the remaining 11 (34 percent) Ohio operators resided in non-Appalachian counties. The majority of innovative operators, therefore, were clustered within the 28 counties[1] of Appalachian Ohio. This finding is intriguing since the majority of sawmills in the state were not located in the 28 county region but rather in non-Appalachian counties (51 percent). Consequently, a higher percentage of Appalachian Ohio operators (19 percent) were identified as innovative as compared to non-Appalachian Ohio operators (9 percent).

Self-reliance and individualism are two Appalachian values that have been identified by Loyal Jones (1991) and may offer a partial explanation for the preponderance of innovative sawmill operators residing in Appalachian Ohio. "Making do" when lacking resources may have forced this population of Appalachians to become more innovative than their non-Appalachian counterparts.

Rogers (1983) provided evidence that, of the top 16 percent of innovative individuals in a social system (sawmill operators for example), the majority are considered by their peers as role models and opinion leaders. Jones' list of Appalachian values also includes neighborliness, hospitality, family solidarity, and personalism; these values would seem to fit the image of a community role model or opinion leader and may offer additional insight as to the relationship between innovative sawmill operators and Appalachian Ohio.

The chi-square test of significant difference was calculated between characteristics of innovative Ohio sawmill operators and geographic region of the state. Age was the only characteristic statistically significant by Ohio geographic region ($p < .05$); Appalachian sawmill

operators tended to be older than non-Appalachian operators. Since age has been found to be inversely related to participation in adult education (Cross 1978; Cross and Zusman 1977; Lovell 1979), Appalachian Ohio sawmill operators may be less likely to participate in educational programs than non-Appalachian operators. In addition, regardless of Ohio region, the educational delivery method of one-on-one contact was preferred over group education (meetings, tours, etc.) and self-study at home or office (cassettes, newsletters, etc.). Age and educational delivery method preference of Appalachian Ohio sawmill operators, plus the Appalachian tendency of "resistance to impersonal institutions" (Wyckoff and Wilkinson 1984), may need to be considered by educators in the planning, development, and delivery of educational programs to this audience.

The finding that Appalachian operators (71 percent equal to or greater than 45 years) were older than their non-Appalachian counterparts (82 percent less than 45 years) is consistent with the common image that Appalachians are "older" than the average citizen. In reality, however, statewide statistics (Thomas 1991) do not strongly support either the "age image" or the findings of this study. For example, the median age of non-Appalachia and Appalachia Ohioans is 33 and 34 years, respectively[2].

The characteristics of tenure (years of employment in the sawmill industry), income, size of operation (board feet of lumber produced annually), educational level (years of school completed), and educational aspirations (desire to seek new job related information) were not significantly different between Appalachian and non-Appalachian operators. Although not statistically significant at the .05 level, Appalachian operators tended to have more tenure in the sawmill industry and higher income than their non-Appalachian Ohio counterparts. Since social status, which includes income and prestige, has been found to be positively related to innovativeness (Rogers 1983), Appalachian operators, in this study, may be more innovative

than non-Appalachian operators.

In general, Appalachian Ohio is characterized by higher poverty rates (Zeller 1991) and lower per capita income than non-Appalachian Ohio (Ohio Department of Development 1990). However, this study found Appalachian sawmill operators tending to have higher incomes than their non-Appalachian counterparts. Of the 32 innovative operators investigated in this study, Appalachian Vinton County had the largest number of innovative operators with four, but leads the state with a poverty rate of 33.5 percent and a per capita income which is 60 percent of the state average. Clearly, a sweeping generalization of Appalachian Ohio (high poverty level) does not match with the reality of this particular example (high income level for innovative operators).

Compared to non-Appalachian Ohio, low levels of educational attainment and educational aspirations are two images that persist about Appalachian Ohio. The results of this study, however, do not support these Appalachian images as they relate to innovative sawmill operators. Two-thirds of the Appalachian operators had a minimum educational attainment of "some college" with 62 percent of the same operators indicating "strong" educational aspirations. The educational aspirations finding is consistent with a study conducted over three decades ago which reported that Appalachian residents view higher education in much the same way as do people in other parts of the U.S. and are cognizant of its value (Ford 1962).

Significant statistical differences were not found between perceived educational needs of innovative operators and Ohio geographic region. These results indicated that, from a subject matter viewpoint, educational programs developed for innovative operators would be applicable on a statewide basis. As noted earlier, however, the older age of Appalachian operators might limit their participation in educational programs. Therefore, a common subject matter for innovative operators statewide might require different program delivery strategies for the Appalachian and non-Appalachian regions.

Summary and Recommendations

The specific results, conclusions, and implications of this study can be summed in the following general statement: The characteristics of a particular Appalachian social class (clientele, audience, etc.) will not necessarily correspond to either the images or the realities of the Appalachian population as a whole, thus demonstrating the diversity within the Appalachian region. For example, this study found that the income of innovative Appalachian Ohio sawmill operators did not fit with either the image or reality of Appalachia Ohio; age of operators, however, corresponded to image but not reality and operators' educational aspirations did not match image but did agree with the reality of a previous study. Educators and service providers need to consider the following points when working with Appalachian audiences.

First, education and service programs that target specific audiences in Appalachia may not meet the needs and interests of the intended audience if the programs are developed and delivered based on Appalachian images (perceptions) and/or generalized realities. Characteristics of the intended audience should be examined in advance of program development to enable program planning to occur with consideration of the "reality of the target audience".

Second, education and service program providers who know the characteristics of their audience can benefit from research that has investigated the relationship between demographic characteristics and variables such as participation in adult education programs, educational delivery method preference, and innovativeness.

Third, education and service program providers can contribute to the scholarship in the field of diversity in Appalachia by intent and in-depth analyses of different social systems within the region. The expectation is that if scholars recognize the importance of the diversity issue, then research dollars, time, and effort will be expended to develop a better understanding of

Appalachia's images and realities.

Notes

[1]Appalachian Ohio is currently defined by the Appalachian Regional Commission as a 29 county region. However, this study was conducted during early 1991 when a 28 county region of Ohio was defined as Appalachia.

[2] Many individuals, scholars as well as others, would be surprised to learn that the county with the lowest median age in Ohio is in Appalachia (Athens county: 25 years).

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